

US EPA RECORDS CENTER REGION 5



460276

INTEGRATED ASSESSMENT (IA) REPORT

SANDY SUPPLY

**Wooster, Wayne County, Ohio
U.S. EPA ID: OH0000362168**

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**OHIO ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF EMERGENCY & REMEDIAL RESPONSE**

**1800 WaterMark Drive
Columbus, Ohio 43215**

December 5, 1995

INTEGRATED ASSESSMENT (IA) REPORT

FOR

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This draft Integrated Assessment (IA) Report is confidential and predecisional in nature. Information contained in this report may not be released without the approval of the U.S. Environmental Protection Agency, Region 5, Site Assessment Section.

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1.0 EXECUTIVE SUMMARY

On July 11-12, 1995, Site Investigation Field Unit (SIFU) personnel of the Ohio Environmental Protection Agency (OEPA) Division of Emergency and Remedial Response conducted a Integrated Assessment (IA) at the Sandy Supply site in Wooster, Wayne County, Ohio. The main objective of this IA was to determine if previous operations and disposals at this facility resulted in soil, sediment and/or extensive groundwater contamination which would potentially cause an environmental hazard to the adjacent community and surrounding environment.

Work conducted during the IA included: collection of soil samples from four (4) on-site locations with (1) off-site background location; collection of groundwater samples from five (5) monitoring wells (1 as background and 1 being an unused production well); and collection of sediment samples from two (2) locations on Christmas Run, which borders the site. No air or surface water samples were collected.

A large number of contaminants were detected in the sample analyses, especially in the monitoring well and soil samples. Site attributable contaminants are believed to impact the groundwater resource and consequently present a human health risk. The soil is also believed to present a slight human health risk because the site is located in a commercial and recreational area (county fairgrounds border the site) and is not fenced; it is accessible at any time, but contaminants were detected relatively deep.

2.0 INTRODUCTION

The Ohio EPA, under a Cooperative Agreement with the U.S. Environmental Protection Agency (U.S. EPA) Region 5, conducted a Integrated Assessment (IA) at the Sandy Supply Site, Wooster, Wayne County, Ohio. The site became a concern after an underground storage tank (UST) removal and sampling discovered groundwater contamination in the site's production well in 1990.

2.1 Project Background

A UST was removed from this site in the fall of 1990. During the UST removal, soil contamination, consisting of benzene, toluene, ethyl benzene, and xylene (BTEX) was discovered. Samples from a production well (at that time used for a drinking water well) near the UST removal site in December 1990 detected trichloroethylene (TCE) at concentrations of 354 micrograms per liter (ug/l) and 204 ug/l. The maximum contaminant level (MCL) for TCE in drinking water is 5 ug/l. Additional samples collected from the same well in January and April 1991 showed TCE at concentrations of 207 ug/l and 6000 ug/l, respectively.

The Sandy Supply Company voluntarily installed four (4) monitoring wells with no oversight of Ohio EPA. The single well that appears to be in the probable southerly migration path and towards Wooster's south well field, has not indicated contamination. Ohio EPA has not been given any information regarding the construction, depth, or screened interval of any of these wells. In April 1994, Ohio EPA supervised the installation of an additional five (5) monitoring wells. Two of these wells were installed along the southern portion of what is an alleged former industrial lagoon. The remaining three wells were installed at points south of the main building which is down gradient of the contaminated area. The owners of the site and other potentially responsible parties also installed 5 additional wells on the perimeter of the site.

After the installations of these wells and resolving some state laboratory issues, the OEPA-SIFU prepared and submitted a site-specific work plan to U.S. EPA Region 5 Site Assessment Section (June 1995). Upon review and approval by U.S. EPA Region 5 personnel, the Integrated Assessment (IA) was conducted on July 11-12, 1995.

2.2 Purpose

Site inspection objectives, as described by the U.S. EPA in a directive outlining Site Assessment Program strategies, are as follows:

- To collect additional data beyond the Preliminary Assessment to enable a more refined Hazard Ranking System score;
- To establish priorities among sites most likely to qualify for the National Priorities List; and
- Identify data requirements for the Expanded Site Investigation (ESI) phase.

Specifically, this IA was performed to further identify the existence of contamination on the Sandy Supply site, and determine the consequent environmental hazards posed by the site to the City of Wooster and the surrounding environment.

3.0 SITE BACKGROUND

3.1 Site Description

The 15 acre Sandy Supply Co. site is located on the south west side of Wooster on the Killbuck Creek floodplain immediately to the northwest of the Rt. 30 and Rt. 3 intersection. Figure 1. The site is bounded by the Baltimore and Ohio railroad and the county fairgrounds to the north, Rt. 3 to the east, Rt. 30 to the south and the fairgrounds parking area to the west. A small stream named Christmas Run is channelized through the site. Christmas Run discharges into the Killbuck Creek about two-thirds of a mile south of the site.

There is a line of buildings on the northern perimeter of the site, including the old production building near the north east corner. The remainder of the site is currently used for storage of well parts, mostly various sizes and lengths of well casings. During past wire drawing operations an unlined pit was located directly south of the production building. This pit was used for disposal of solvents, PCBs, and acids. The pit is now completely filled and covered. There are currently 14 monitoring wells and one (1) production well on the site. Figure 2.

The Site is situated in the best groundwater production area in Wayne County. Over 23,500 people in and around Wooster obtain water from the aquifer through Wooster's public water supply. The site is located two-thirds of a mile from the south wellfield and one and a one-half miles from the north wellfield, Figure 1. The most northern of the south wellfields 2 public drinking water wells has already indicated TCE and DCE contamination, and the north wellfield is being impacted by TCE contamination.

3.2 Regional and Site Geologic Setting and Hydrology

The Sandy Supply site lies on the northern edge of the Killbuck Creek Valley on the Killbuck Creek flood plane. This valley contains a valley filled aquifer consisting of coarse glacial sand and gravel deposited in the bottom of an ancient glacial depositional channel eroded into the shale bedrock. This sand and gravel aquifer may be partially capped by a deposit of low permeability alluvial silt. Any perched aquifers are believed to be interconnected with the lower drinking water aquifer.

3.3 Site History

The site is currently owned by the Sandy Supply Company which operates an oil well drilling and pipeline equipment supply business. Beginning in the late 1950s, a series of metal wire drawing facilities were located at this site. Armetco, which later changed to Teledyne, first operated at the site. According to former employees from this time, acids and degreasers (including TCE and methyl ethyl ketone (MEK)) were used by the company and disposed of in a pit or pond behind the wire drawing building.

Astro purchased the site in 1970 and former employees stated that TCE was used and disposed of in a similar manner. Astro sold the site to Sandy Supply in 1977. United Titanium leased the site from Sandy Supply from 1977 through 1985. United Titanium also used TCE as a cleaner and degreaser in the manufacturing of metal parts. A former worker stated that parts were dipped in this chemical and allowed to drain on the floor. TCE may have been released through splashing and floor drains as a result of this process.

A petroleum underground storage tank (UST) was removed from this site in the fall of 1990. During the UST removal, soil contamination, consisting of benzene, toluene, ethyl benzene, and xylene (BTEX) was discovered. Samples from a well near the UST removal site in December 1990 detected trichloroethylene (TCE) at concentrations of 354 micrograms per liter (ug/l) and 204 g/l. The maximum contaminant level (MCL) for TCE in drinking water is 5 ug/l. Additional samples collected from the same well in January and April 1991 showed TCE at concentrations of 207 ug/l and 6000 ug/l, respectively. The sample containing 6000 ug/l was collected from a drinking water fountain in the adjacent production building.

The Sandy Supply Company voluntarily installed four (4) monitoring wells with no oversight of Ohio EPA. The single well that appears to be in the probable southerly migration path and towards Wooster's south well field, has not indicated contamination. Ohio EPA has not been given any information regarding the construction, depth, or screened interval of any of these wells. In April 1994, Ohio EPA supervised the

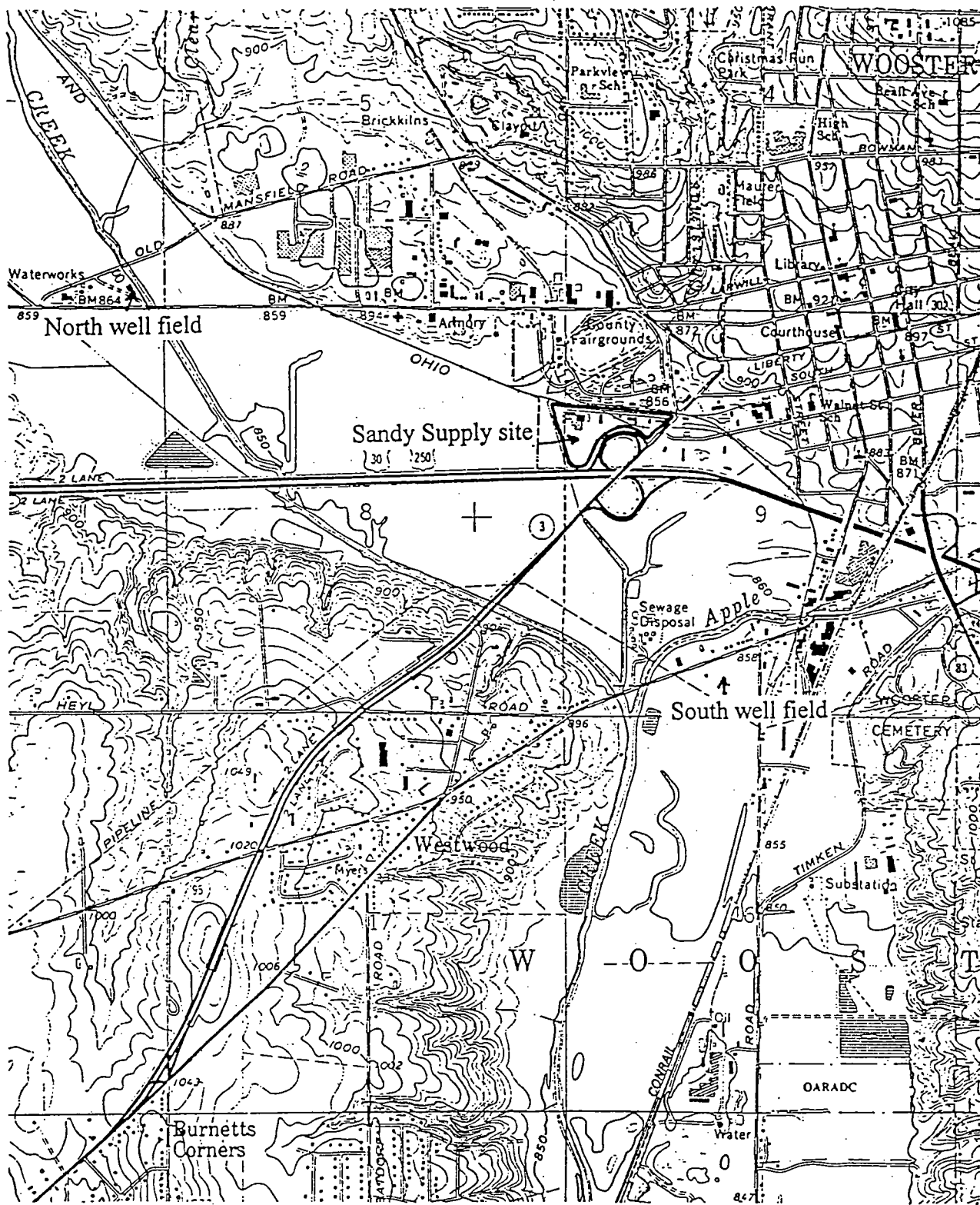


Figure 1: Sandy Supply Company Site Location Map



WOOSTER, OHIO
40081-G8-TF-024
1961
Photorevised 1985



Wayne County Fair Grounds

B & O Railroad

Vanover St

Kemrow Avenue

MW-9

Old Solvent Pit/
Lagoon (Covered)

EPA
MW-5

MW-1

EPA
MW-4

EPA
MW-1

EPA
MW-2

Christmas Run

EPA
MW-3

Columbus Ave.

Route 3

State Route 30

The Sandy Supply Company

636 Kemrow Avenue, Wooster, Ohio

Figure 2

- Old closed drinking water well
- Previously existing Monitoring Wells
- ◐ Monitoring wells installed by Ohio EPA

installation of an additional five monitoring wells. Two of these wells were installed along the southern portion of what is an alleged former industrial lagoon. The remaining three wells were installed at points south of the main building (Figure 2) which is down gradient of the contaminated area. The owners of the site and other potentially responsible parties also installed five 5 additional wells on the perimeter of the site (Figure 2).

4.0 SAMPLE LOCATIONS AND PROCEDURES

Monitoring well water, site soil, and stream sediment samples were collected from discrete locations at the Sandy Supply site on July 11-12, 1995 (Figure 3). Monitoring well sample locations were chosen based on previous sample knowledge indicative of contaminated wells. Soil sample locations were selected utilizing historic aerial photographs and in part by screening for VOCs with photo-ionization detectors (PID). Stream sediment sample locations were also selected by historic aerial photographs delineating the probable point of entry from the former lagoon to Christmas Run. Appropriate background and QA/QC samples were also collected for each of three media types.

Standard quality assurance and quality control (QA/QC) procedures for the IA field activities were followed during the collection of all samples. These procedures, including sample collection, packaging, shipping, and equipment decontamination, are documented in the Quality Assurance Project Plan (QAPP) for Region 5, Superfund Integrated Assessment Activities for Ohio EPA. This documentation includes Ohio EPA Field Standard Operating Procedures (FSOPs).

4.1 Monitoring Well Samples

Previous sampling and historic knowledge were used to determine which on site monitoring wells would be used for well sampling locations. Four (4) wells that had histories of contamination or were suspected of contamination, based on their location, were chosen for sampling. These locations (EPA MW2, EPA MW5, MW1, and PW1) were all near the former disposal lagoon. The samples were taken mainly to procure Contract Laboratory Program (CLP) confirmation of the contamination in the buried valley aquifer at the site.

Sample PW1 and WW1 were duplicate samples both collected at the out of service production well located on site. One (1) well was chosen as a background sample location (MW9). Figure 3 contains the groundwater sampling locations. All monitoring well water samples were collected directly from the well head, by bailer, in accordance with the OEPA FSOPs for groundwater sample collection.



Wayne County Fair Grounds

B & O Railroad

Vanover St

Kemrow Avenue

Old Solvent Pit/
Lagoon (Covered)

EPA
MW-5

WW-1

EPA
MW-2

MW-1

EPA
MW-1

EPA
MW-4

EPA
MW-3

Christmas Run

Columbus Ave.

Route 3

State Route 30

The Sandy Supply Company

636 Kemrow Avenue, Wooster, Ohio

Figure 3

- Old closed drinking water well
- Previously existing Monitoring Wells
- ⦿ Monitoring wells installed by Ohio EPA
- Soil Sampling Locations
- ▣ Sediment Sampling Locations

4.2 Soil Samples

To show association between the old disposal lagoon and the plume of contaminated groundwater beneath Sandy Supply, three (3) soil samples were collected from the Sandy Supply site in the area of the old lagoon along with one (1) off-site background soil sample (Figure 3). The three (3) soil samples were collected from lower than two feet below the surface, (10 - 11 feet). Samples S02 and S04 were duplicates.

The background soil sample was taken approximately one fourth (1/4) of a mile west of the site in the floodplain of Christmas Run. Sandy Supply also lays in the floodplain of Christmas Run.

Soil samples were collected utilizing stainless steel bucket augers and spoons according to the OEPA FSOPs for soil sample collection.

4.3 Sediment Samples

Three (3) sediment samples were collected from Christmas Run which flows north to south, west of the former lagoon area, directly through the Sandy Supply Site. The three sediment samples were collected from two locations; upstream and probable point of entry (PPE). These locations were chosen to determine if historical releases from the site might be evident, or if potentially contaminated groundwater or surface runoff enters the creek.

SD02 and SD03 were duplicate samples taken at the PPE, adjacent to the oil well in Christmas Run. The upstream sample (SD01) was collected as a background sample to differentiate any contamination that could be attributed to the site. These samples were collected using stainless steel scoops according to the OEPA FSOPs for sediment sample collection. Figure 3 depicts the sediment sampling locations.

4.4 Surface Water Samples

No surface water samples were collected for this Integrated Assessment.

5.0 DISCUSSION OF ANALYTICAL RESULTS

Monitoring Well water, site soil, stream sediment, and surface water samples were analyzed by U.S. EPA Contract Laboratory Program (CLP) Laboratories. The laboratories analyzed the samples for volatile organic compounds (VOC), extractable semi-volatile organic compounds - (BNA), pesticides, polychlorinated biphenyls (PCB), metals, and cyanide. All analyzed substances are included on the U.S. EPA Target Compound List (TCL) and Target Analyte List (TAL).

Significant results from the chemical analyses of monitoring well, site soil, and stream sediment samples are summarized in Tables 1 through 6. Data were reviewed by the U.S. EPA Region 5 office for compliance with the Contract Laboratory Program guidelines; data were validated by the Region 5 Central Regional Laboratory.

5.1 Monitoring Well Samples

Significant levels of contaminants detected in monitoring well water samples are all organics, and presented in Table 2. Table 1 shows inorganic ground water results, none of which are considered significant. CLP sample analyses results confirmed chlorinated solvent contamination in the area expected to be contaminated. (Contaminants and levels were similar to expected results.) The 4 contaminated wells contained trichloroethylene at levels from 18 to 9200 ppb; two of the four wells contained cis-1,2-dichloroethylene and vinyl chloride at levels of 3500 and 800 ppb and 110 and 130 ppb, respectively. Additionally, one well contained 1,1-Dichloroethylene at 16 ppb, and 1,1-Dichloroethane at 24 ppb. No volatile organics were detected in the background well.

No other significant or site attributable contamination was apparent. The only semi-volatile compound detected was bis(2-ethylhexyl)phthalate, which results showed as near estimated values in three of the suspect wells and 12 ppb in the background well.. No pesticides or PCBs were detected. Lead was detected in all of the four wells near the old lagoon at levels of 4.4 ppb to 26.4 ppb, with no lead apparent in the background sample. The lead values were highest in the wells with the highest chlorinated solvent content.

5.2 Soil Samples

Significant results obtained from site soil sample analyses appear in Tables 3 and 4. The following is a list of the highest levels of volatile organic contaminants that were detected on site along with the highest level detected: Trichloroethylene (17,000 ppb), total 1-2-Dichloroethylene (32,000 ppb), and total xylenes (2100 ppb).

The following semi-volatile compounds were detected: naphthalene (580 ppb), 2-methylnaphthalene (1700 ppb), anthracene (2200 ppb), fluoranthene (2800 ppb), and bis (2 ethylhexyl) phthalate (3700 ppb).

High levels of the polychlorinated biphenyl (PCB) compound, arochlor 1254, were detected in both of the sample locations in the old lagoon area, (up to 180,000 ppb).

Inorganic results are not reported due to laboratory error. Incorrect quality control (QC) procedures performed by the laboratory rendered the data unusable.

5.3 Sediment Samples

Results from stream sediment sampling are presented in Tables 5 and 6. Analyses revealed the presence of several TAL analytes and TCL compounds; however, only a few were site attributable (significant).

Five inorganic results showed higher values at the probable point of entry (PPE) than at the upstream sample location. They were chromium (12.6, 19.2 ppm), copper (23.5, 46.6 ppm), lead (42.9, 62.1 ppm), nickel (14.5, 22.8 ppm) and zinc (109, 121 ppm).

No volatile compounds were found in the sediment samples.

Results indicated that semi-volatile compounds were present at elevated concentrations in Christmas Run. The upstream sample results and PPE sample results are very comparable. Therefore it is difficult to attribute the presence of the contaminants to the site.

Pesticide compounds were detected in the PPE sample that were not present upstream. alpha-chlordane, gamma-chlordane, endosulfan I, and 4,4-DDD were all detected at the PPE location. However it is difficult to attribute these to the site for two reasons; there is no evidence of historic or present pesticide use at the site, and a pesticide was detected in the background soil sample off Sandy Supply's property in a possible agricultural area.

However, the detection of the PCBs (Aroclor-1248 at 55 ppb and Aroclor-1254 at 490 ppb) is probably attributable to the site. Highly elevated PCB levels were detected in the soil samples in the old lagoon area(180,000 ppb). There was no findings of PCBs in the upstream sample.

5.4 Surface Water Samples

No surface water samples were collected for this Integrated Assessment.

TABLE 1: SUMMARY OF MONITORING WELL SAMPLE ANALYSES - INORGANICS

Sample Number	EPA MW5	MW9	EPA MW2	PW1	MW1	WW1
Inorganic Traffic Report No.	MEABR1	MEABR2	MEABR3	MEABR4	MEABR5	MEABR6
Time:	11:15	10:15	14:40	15:30	16:30	15:00
Date:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95
BACKGROUND WELL						DUP OF PW1
Analytes detected: (Concentrations ug/L or ppb)						
Arsenic	B ⁽¹⁾	---	---	---	---	---
Barium	B	B	B	B	B	B
Beryllium	B	---	---	---	---	---
Cadmium	B	---	---	B	B	B
Calcium	99400	81500	178000	118000	243000	119000
Chromium	---	B	---	---	---	---
Cobalt	---	---	---	---	B	---
Iron	1610	1050	667	11200	10800	9880
Lead	4.4	---	3.1	26.4	3.5	22.0
Magnesium	22300	22000	31400	32900	52400	32400
Manganese	388	74.7	3970	754	4270	718
Potassium	--- ⁽²⁾	B	B	---	B	---
Sodium	68000	58300	40700	41400	77100	40600
Zinc	34.3	30.0	B	669	103	664

B⁽¹⁾ = Value above instrument detection limit, but below contract-required detection limit (CRDL)

---⁽²⁾ = Analyte analyzed for, but Not Detected

TABLE 2: SUMMARY OF MONITORING WELL SAMPLE ANALYSES - ORGANICS

Sample Number	EPA MW5	MW9	EPA MW2	PW1	MW1	WW1
Inorganic Traffic Report No.	EANH1	EANH2	EANH3	EANH4	EANH5	EANH6
Time:	11:15	10:15	14:40	15:30	16:30	15:00
Date:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95
		BACKGROUND WELL				DUP OF PW1
Analytes detected: (Concentrations ug/L or ppb)						
Vinyl Chloride	--- ⁽¹⁾	---	110	---	130	---
1,1-Dichloroethylene	---	---	---	16	---	---
1,1-Dichloroethane	---	---	24	---	---	---
cis-1,2-Dichloroethylene	---	---	3500 D	8 J	800	8 J
Trichloroethylene	18	---	9200 D	96	3000	92
1,1,2-Trichloroethane	---	---	2 J	---	2 J	---
Benzene	---	---	1 J	---	---	---

Semi-Volatile Compounds Detected:

bis(2-Ethylhexyl)Phthalate	3 J	12	---	3 J	2 J	---
----------------------------	-----	----	-----	-----	-----	-----

Pesticide/PCB Compounds Detected:

None detected

--- = Compound analyzed for, but Not Detected.

J = Indicates an estimated value.

D = Indicates compound identified in an analysis at a secondary dilution factor.

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYSES - INORGANICS

Sample Number	So1	S02	So3	S04
Inorganic Traffic Report No.	MEABT1	MEABT3	MEABT4	MEABT5
Date:	7/11/95	7/11/95	7/11/95	7/11/95
	Depth 10-11 ft.	Depth 10-11 ft.	Bkgd Depth 15"	Depth 10-11 ft. Dup of S02
<u>Analytes Detected:</u>				

Not reported due to incorrect QC procedures performed by the laboratory rendering the data unusable.

TABLE 4: SUMMARY OF SOIL SAMPLE ANALYSES - ORGANICS

Sample Number	So	S02	So	S04
Inorganic Traffic Report No.	MEABT1	MEABT3	MEABT4	MEABT5
Date:	7/11/95	7/11/95	7/11/95	7/11/95
	Depth 10-11 ft.	Depth 10-11 ft.	Bkgd Depth 15"	Depth 10-11 ft. Dup of S02

Volatile Compounds Detected:

Chloroethane	---	---	---	240 J
Methylene Chloride	---	---	---	860 J
Acetone	---	---	30 B	---
1-2-Dichloroethylene (Total)	---	32000		7 J 9300
Trichloroethylene	4600	17000	4 J	3300
Tetrachloroethylene	---	710 J	---	---
Toluene	---	260 J	---	---
Xylenes (Total)	1500 J	2100	---	580 J

Semi-Volatile Compounds Detected:

Naphthalene	530 J	580	---	280 J
2-Methylnaphthalene	1700	1000	---	490
Dibenzofuran	290 J	70 J	---	30 J
Phenanthrene	---	230 J	---	84 J
Anthracene	2200	---	---	---
Di-n-butylphthalate	---	50 J	---	---
Fluoranthene	2800	150 J	---	57 J
Pyrene	650 J	---	---	---
Chrysene	1000	89 J	---	33 J
Bis(2-Ethylhexyl)Phthalate	3700	1000	---	500
Benzo(b)fluoranthene	1400	---	---	---
Benzo(k)fluoranthene	260 J	---	---	---
Benzo(a)pyrene	500 J	---	---	---

TABLE 4 (cont): SUMMARY OF SOIL SAMPLE ANALYSES - ORGANICS

Sample Number	So	S02	So	S04
Inorganic Traffic Report No.	MEABT1	MEABT3	MEABT4	MEABT5
Date:	7/11/95	7/11/95	7/11/95	7/11/95
	Depth 10-11 ft.	Depth 10-11 ft.	Bkgd Depth 15"	Depth 10-11 ft. Dup of S02

Semi-Volatile Compounds Detected (cont):**Pesticides/PCB Compounds Detected:**

4,4 -DDE	---	---	5.4	---
Arochlor-1254	180000 D	11000 D	---	8400

--- = Compound analyzed for, but Not Detected.

B = Indicates compound in associated blank, indicates possible/probable blank contamination.

J = Indicates an estimated value. For Pesticide/Arochlor results, the compound is confirmed to be present but the concentration is less than the CRQL.

D = Indicates compound was detected in an analysis at a secondary dilution factor.

TABLE 5: SUMMARY OF STREAM SEDIMENT SAMPLE ANALYSES - INORGANICS

Sample Number	SD01	SD02	SD03
Inorganic Traffic Report No.	MEABT6	MEABT7	MEABT8
Time:	08:53	09:34	09:54
Date:	7/11/95	7/11/95	7/11/95
	UPSTREAM	AT PPE	Dup. of SD02
<u>Analytes Detected:</u>			
Aluminum	5720	6060	5870
Arsenic	22.7	13.3	13.4
Barium	55.9 E	62.2	77.6
Beryllium	B	B	B
Cadmium	---	---	B
Calcium	12100	10900	12200
Chromium	12.6	16.9	19.2
Cobalt	B	B	B
Copper	23.5	46.6	42.2
Iron	28000	20500	20900
Lead	42.9	60.3	62.1
Magnesium	3530	3130	3230
Manganese	545	430	455
Nickel	14.5	22.1	22.8
Potassium	B	B	B
Sodium	B	119	B
Vanadium	25	24.6	25.8
Zinc	109	120	121
Cyanide	---	1.3	---

--- = Analyte was not detected.

B = Value above instrument detection limit, but below contract-required detection limit (CRDL)

TABLE 6: SUMMARY OF STREAM SEDIMENT SAMPLE ANALYSES - ORGANICS

Sample Number	SD01	SD02	SD03
Inorganic Traffic Report No.	EANK6	EANK7	EANK8
Time:	08:53	09:34	09:54
Date:	7/11/95	7/11/95	7/11/95
	UPSTREAM	AT PPE	Dup. of SD02

Volatile Compounds Detected:

None Detected

Semi-Volatile Compounds Detected:

1,4-Dichlorobenzene	38 J	---	---
4-Methylphenol	---	54 J	---
Naphthalene	13 J	22 J	18 J
2-Methylnaphthalene	12 J	24 J	21 J
Acenaphthylene	35 J	62 J	42 J
Acenaphthene	49 J	35 J	46 J
Dibenzofuran	34 J	30 J	27 J
Fluorene	66 J	47 J	50 J
Phenanthrene	1100	840	820
Anthracene	180 J	140 J	160 J
Carbazole	290 J	300 J	300 J
Fluoranthene	2000	2200	2200
Pyrene	1700	2000	1500
Benzo(a)anthracene	750	710	700
Chrysene	890	1000	960
Benzo(b)fluoranthene	950	1400	1300
Benzo(a)pyrene	720	800	770

TABLE 6 (cont): SUMMARY OF STREAM SEDIMENT SAMPLE ANALYSES - ORGANICS

Sample Number	SD01	SD02	SD03
Inorganic Traffic Report No.	EANK6	EANK7	EANK8
Time:	08:53	09:34	09:54
Date:	7/11/95	7/11/95	7/11/95
	UPSTREAM	AT PPE	Dup. of SD02

Semi-Volatile Compounds Detected (cont):

Indeno(1,2,3-cd)pyrene	230 J	200 J	200J
Dibenzo(a,h)anthracene	54 J	33 J	30 J
Benzo(g,h,i)perylene	46 J	62 J	67 J

Pesticide/PCB Compounds Detected:

Endosulfan I	---	6.2 P	5.0 JP
4,4-DDD	---	21	15
Alpha-chlordane	---	9.3 P	7.4 P
Gamma-chlordane	---	10.0 P	8.1 P
Aroclor-1248	---	60 P	55
Aroclor-1254	---	490	450

J = Indicates an estimated value. For Pesticide/Arochlor results, the compound is confirmed to be present but the concentration is less than the CRQL.

P = For Pesticide/Arochlor target analytes where there is greater than 25% difference for the detected concentrations between the two columns. The lower of the two values is reported.

6.0 MIGRATION PATHWAYS

Potential migration pathways and targets of site contaminants are discussed in this section. The four migration pathways are ground water, surface water, soil, and air.

6.1 Ground Water Pathway

The ground water migration pathway appeared to be the most serious concern at this site. The two water supply well fields for the city of Wooster lie within one and one half miles of Sandy Supply. In excess of 23,000 people obtain drinking water from the City of Wooster supply system. Chlorinated solvent contamination has been identified at both well fields. The monitoring well samples collected during this Integrated Assessment (IA) and past sampling results have indicated trichloroethylene, vinyl chloride and dichloroethylene are the major contaminants in this plume.

The samples collected during this IA indicated high levels of chlorinated solvents and solvent contamination in the soil at greater than two feet below the ground surface. Samples SO1 and SO2 contained high concentrations trichloroethylene, and xylenes. The chlorinated alkenes are parent compounds of vinyl chloride, a known carcinogen. It was found in the monitoring wells sampled during this IA. The MCL for vinyl chloride is 1 ppb. The levels detected in the monitoring well water range from 110 ppb (EPA MW2) to 130 ppb (MW1).

The dichloroethylene (DCE) detected in the monitoring well water samples is also attributable to past activities at Sandy Supply. A portion of the DCE found may have resulted from the breakdown of trichloroethylene.

Trichloroethylene was detected at levels as high as 9200 ppb in samples of ground water collected from on-site monitoring wells for this Sandy Supply Site IA.

The 23000+ water customers of the City of Wooster water supply, are potentially at risk due to the groundwater pathway.

6.2 Soil Exposure Pathway

Although the site is not fenced, completely accessible, and bordered on two sides by the Wayne Co. Fairgrounds, and parking for the fair grounds, all contaminants discovered in the soil samples were at a depth greater than 2 feet (10-11 feet). Due to the depth of contamination this site is not considered a soil exposure risk.

6.3 Surface Water Pathway

Surface waters were not analyzed as part of this IA. The sediment samples collected as part of this IA indicate site attributable PCB contamination in the adjacent stream (490 ppb). Although the stream is completely accessible, it has considerably higher levels of several semi-volatile compounds that are not site attributable and carries runoff from most of the town of Wooster. The sandy Supply Site is not considered to currently present a significant threat to the surface water pathway. If/when the site is remediated this pathway will need to be assessed.

6.4 Air Pathway

Air monitoring was not conducted by Ohio EPA during this Integrated Assessment, and is not considered to be a site threat.

7.0 REFERENCES

1. United States Geological Survey, 7.5 minute series topographic maps, WOOSTER quadrangle (1961, photo-revised 1985).
2. Freeze, R. Allen and Cherry, John A., Ground Water, Prentice-Hall, Inc., 1979.
3. OEPA, 1992, Findings of Fact, prepared by Teri Phillips, Div. of Emergency and Remedial Response.
4. Ohio Department of Development, 1990 Census of Population & Housing for Wooster, Ohio Data Users Center, Columbus.
5. Bureau of Aerial Engineering, Ohio Department of Transportation, Aerial photographs of the Sandy Supply site, 1948, 1957, 1962, 1965, 1971, 1974, and 1977.
6. Ohio EPA-NEDO, Division of Emergency and Remedial Respons ,Ohio EPA, March 26, 1992.

APPENDIX A:

Site Photographic Log

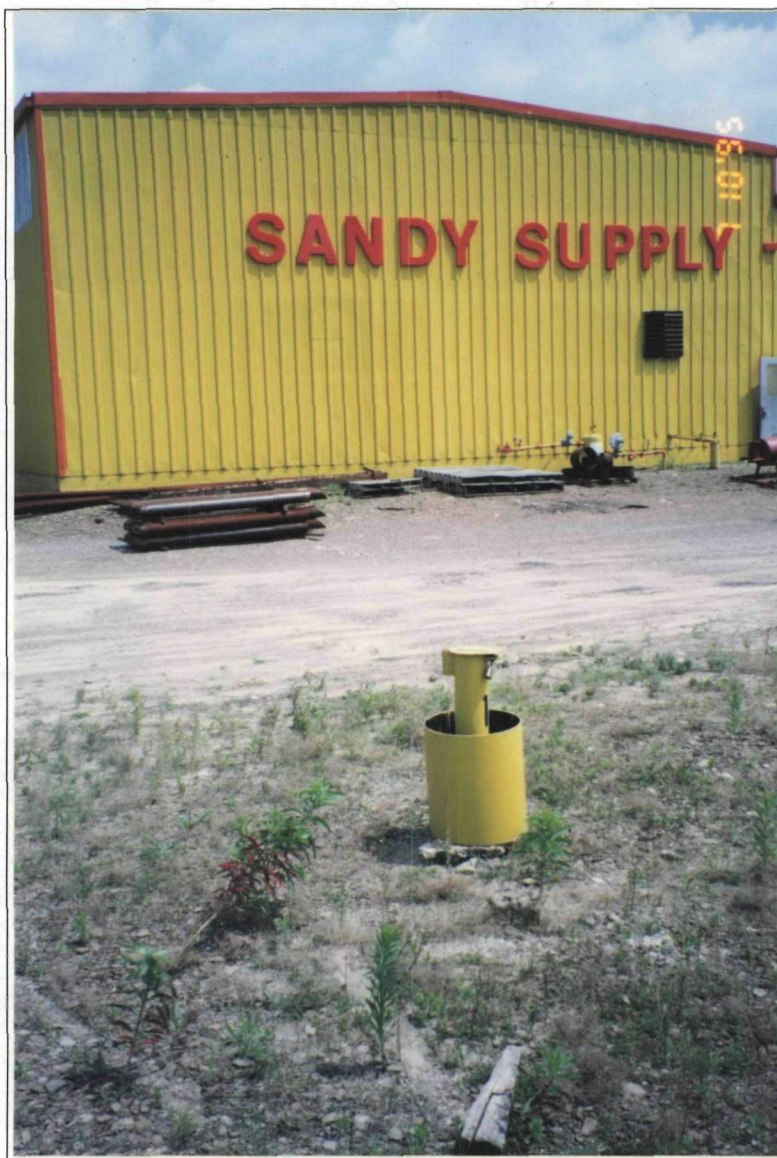


Photo No: 1
Orientation: North
Description: MW-1

Sample No: MW-1

Date: 7/10/95

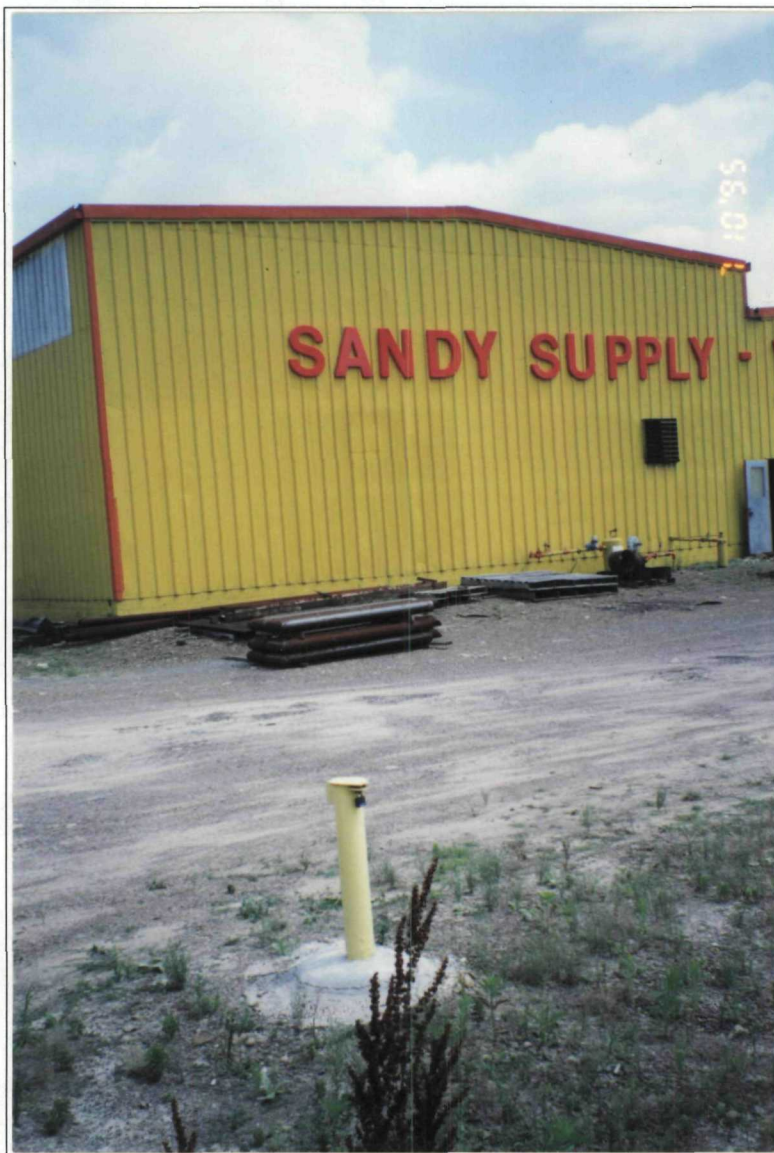


Photo No: 12
Orientation: North
Description: EPA MW-2

Sample No: EPA MW-2

Date: 7/10/95

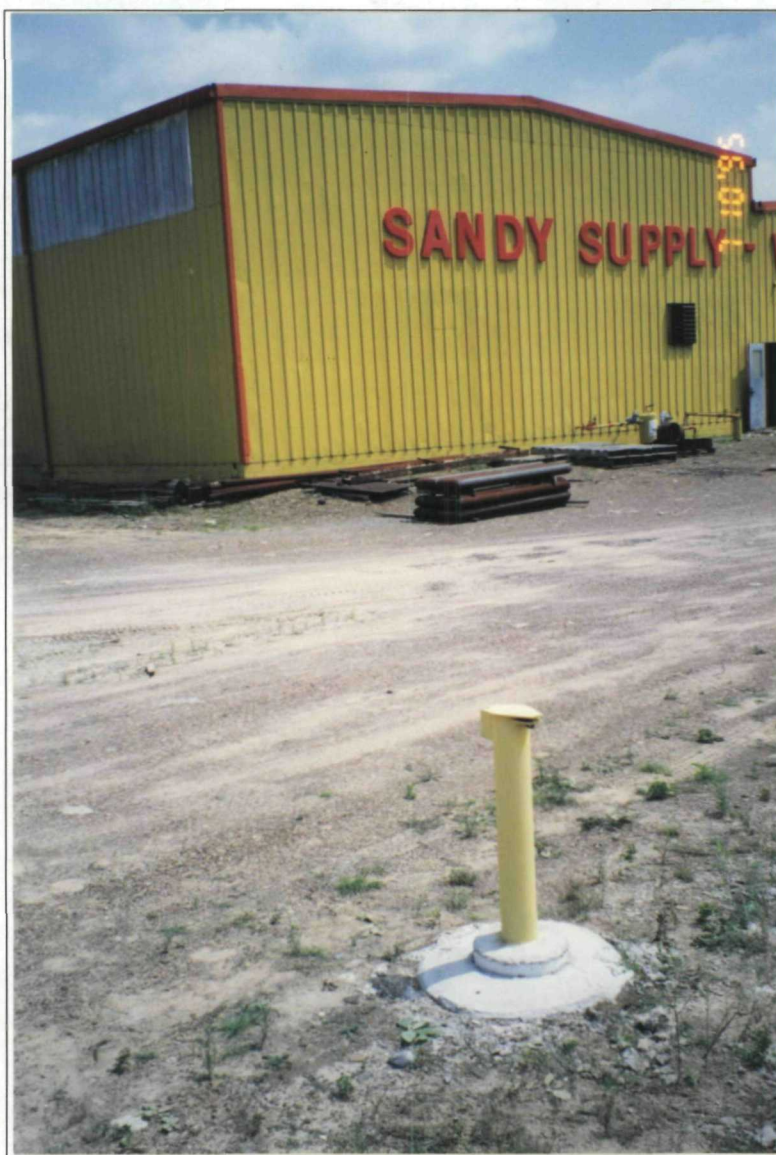


Photo No: 43
Orientation: North
Description: EPA MW-2

Sample No: EPA MW-5

Date: 7/10/95



Photo No: 4

Sample No: PW-1 + Dup WW1

Date: 7/10/95 4

Orientation: North

Description: Well head of (closed) on-site production well



Photo No: 5

Sample No: MW-9

Date: 7/10/95

Orientation: South east

Description: MW-9 Background well



Photo No: 6

Sample No:SO-1

Date:7/11/95

Orientation: NA

Description:One of two soil sample locations over old lagoon area(sample collected at 10 - 11 foot depth.



Photo No: 7 Sample No:SO-1

Date:7/11/95

Orientation: North east

Description:One of two soil sample locations over old lagoon area (sample collected at 10 - 11 foot depth.



Photo No: 8

Sample No:SO-1

Date:7/11/95

Orientation: NA

Description:Contaminated soil strata from old lagoon area (sample collected at 10 - 11 foot depth).



Photo No: 9

Sample No:SO-2 + Dup SO-4

Date:7/11/95

Orientation: NA

Description:Second sample location from old lagoon area (sample collected at 10 - 11 foot depth).



Photo No: 10 Sample No:SD-2+ Dup SD-3

Date:7/11/95

Orientation: NA

Description:Sediment sample location, Christmas Run, at probable point of entry.



Photo No: 11

Sample No: SD-1

Date: 7/11/95

Orientation: North west

Description: Upstream sediment sample location.

APPENDIX B:

4 Mile Radius Map

15 Mile Downstream Surface Water Map

Wayne County
SANDY SUPPLY

RADIUS (MILES)	TOTAL PEOPLE	WHITE	BLACK	INDIAN	ASIAN	OTHER	HOUSING (UNITS)
3.00-4.00	4,404	4,296	53	0	28	6	1,711
2.00-3.00	7,203	6,971	143	0	63	4	3,075
1.00-2.00	10,542	9,996	356	5	143	16	3,974
0.50-1.00	3,870	3,643	180	2	23	3	1,732
0.25-0.50	924	856	57	1	4	2	388
0.00-0.25	206	185	18	0	0	0	80
	=====	=====	=====	=====	=====	=====	=====
	27,149	25,947	807	8	261	31	10,960

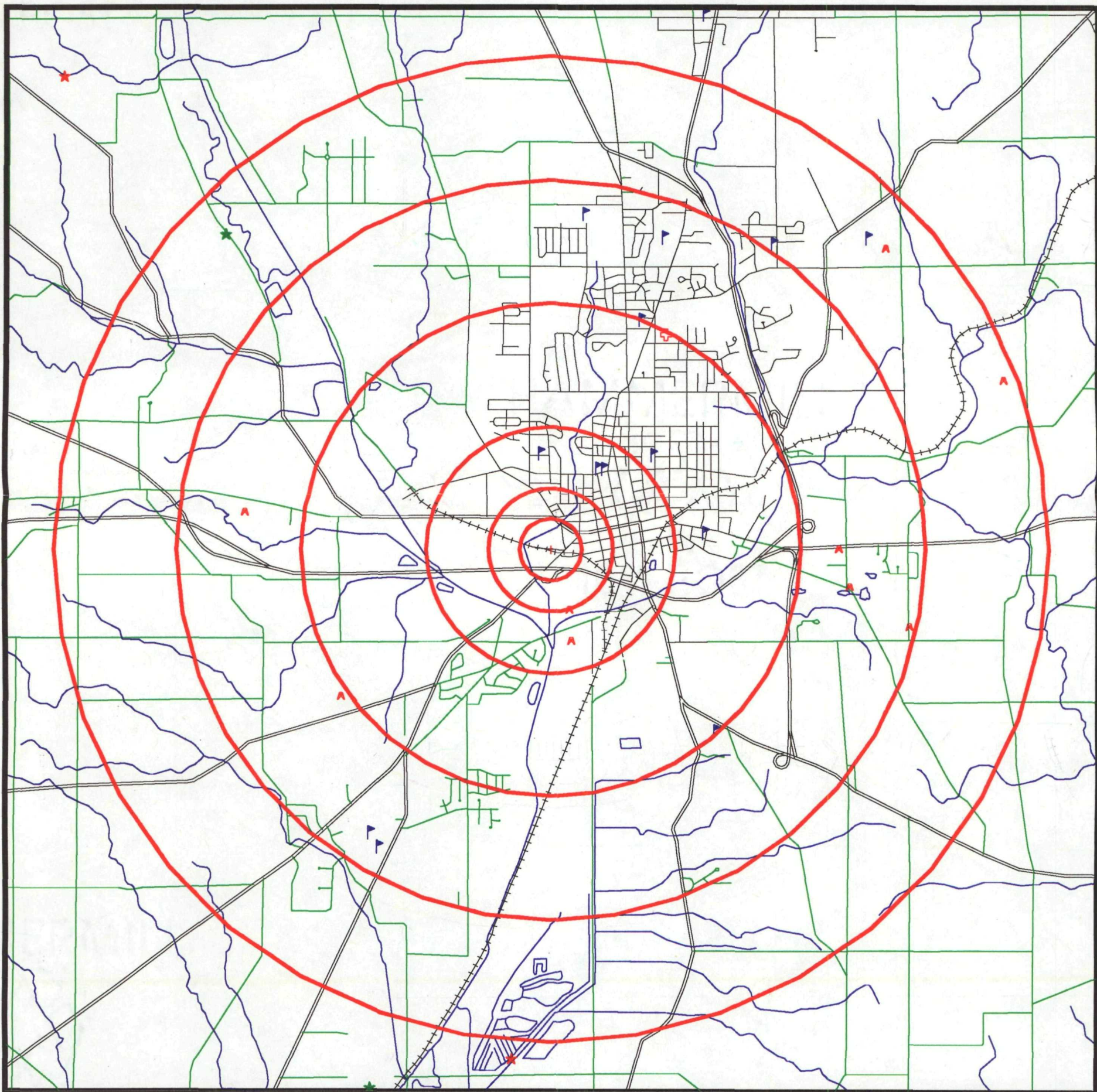
OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

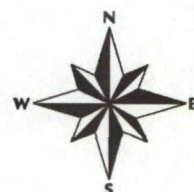
Wayne County

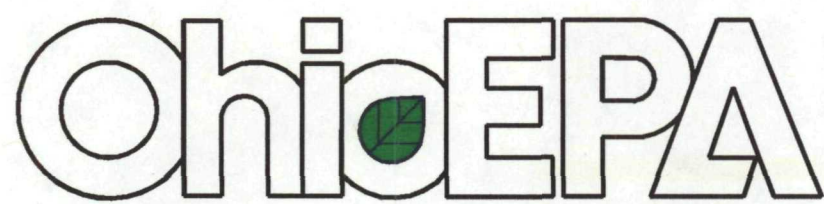
SANDY SUPPLY



- | | |
|-----------------------------|---------------------------|
| School | COUNTY BOUNDARY |
| Hospital | LIMIT OF RADIUS FROM SITE |
| FEDERAL ENDANGERED SPECIES | COUNTY ROAD |
| STATE ENDANGERED SPECIES | MUNICIPAL ROAD |
| PUBLIC SURFACE-WATER SYSTEM | STATE OR FEDERAL HIGHWAY |
| PUBLIC GROUND-WATER SYSTEM | RAILROAD |
| | STREAM |
| | SITE |

1 0 1 2 MILES

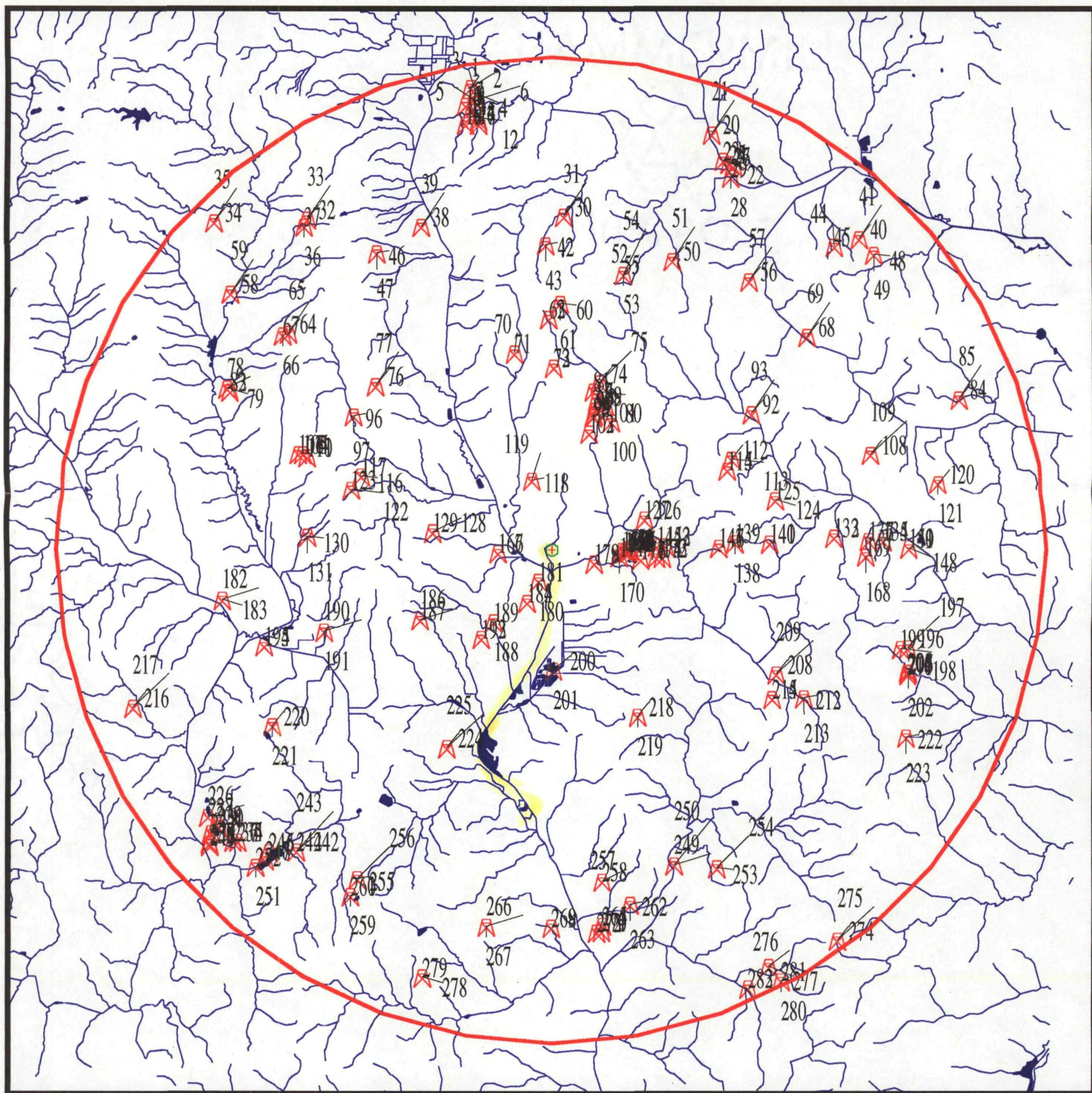









Division of Emergency & Remedial Response

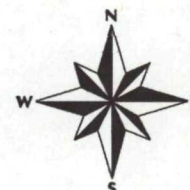
GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NONCOMMUNITY PUBLIC WATER SUPPLY SYSTEMS S A N D Y S U P P L Y



-  PUBLIC SURFACE-WATER SYSTEM
-  PUBLIC GROUND-WATER SYSTEM
-  LIMIT OF RADIUS FROM SITE
-  STREAM
-  SITE

0 5 MILES



APPENDIX C:

COMPREHENSIVE ANALYTICAL DATA TABLES

Sandy Supply Site Integrated Assessment Report Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MS/MSD	BKG				Dup of 4	Trip Blank

[illegible]

Sandy Supply Site Integrated Assessment Report
Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MS\MSD	BKG				Dup of 4	Trip Blank

COMPOUND DETECTED (ug/Kg)

VOLATILE ORGANIC COMPOUNDS	CRQL						
Chlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U

SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL						
Phenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitroso-Di-n-Propylamine	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 ug/L	0.5 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U

Sandy Supply Site Integrated Assessment Report
Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MSMSD	BKG				Dup of 4	Trip Blank

COMPOUND DETECTED (ug/Kg)								
SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL							
Hexachlorocyclopentadiene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,4,6-Trichlorophenol	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,4,5-Trichlorophenol	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
2-Chloronaphthalene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2-Nitroaniline	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
Dimethyl Phthalate	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Acenaphthylene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,6-Dinitrotoluene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
3-Nitroaniline	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
Acenaphthene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,4-Dinitrophenol	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
4-Nitrophenol	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
Dibenzofuran	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,4-Dinitrotoluene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
2,6-Dinitrotoluene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Diethylphthalate	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
4-Chlorophenyl-phenylether	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Fluorene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
4-Nitroaniline	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
4,6-Dinitro-2-Methylphenol	25 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
N-Nitrosodiphenylamine	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
4-Bromophenyl-phenylether	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Hexachlorobenzene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Pentachlorophenol	10 ug/L	25 U	25 U	25 U	25 U	25 U	25 U	
Phenanthrene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Anthracene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Di-n-Butylphthalate	10 ug/L	0.7 J	10 U	2 J	10 U	10 U	10 U	
Fluoranthene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Pyrene	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
Butylbenzylphthalate	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	
3,3'-Dichlorobenzidine	10 ug/L	10 U	10 U	10 U	10 U	10 U	10 U	

Sandy Supply Site Integrated Assessment Report Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MSMSD	BKG				Dup of 4	Trip Blank

COMPOUND DETECTED (ug/Kg)[illegible][illegible]

Sandy Supply Site Integrated Assessment Report
Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MS/MSD	BKG				Dup of 4	Trip Blank

COMPOUND DETECTED (ug/Kg)								
PESTICIDES/PCBs	CRQL							
Methoxychlor	0.50 ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
Endrin ketone	0.10 ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Endrin aldehyde	0.10 ug/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
alpha-Chlordane	0.05 ug/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	
gamma-Chlordane	0.05 ug/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	
Toxaphene	5 ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Aroclor-1016	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Aroclor-1221	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Aroclor-1232	2.0 ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	
Aroclor-1242	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Aroclor-1248	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Aroclor-1254	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Aroclor-1260	1.0 ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

TCL COMPOUND QUALIFIERS	DEFINITION
J	Indicates an estimated value
U	Compound was analyzed for but not detected.
B	Compound is found in the associated blank as well as in the sample.
D	This flag indicates all compounds identified in an analysis at a secondary dilution factor.
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument.
P	Indicates there is a greater than 25% difference for detected concentrations between two GC columns. The lower of the two values is reported.

Sandy Supply Site Integrated Assessment Report
Comprehensive Monitoring Well Sample Analyses Results

CLP SAMPLE NUMBERS:	EANH 1	EANH 2	EANH 3	EANH 4	EANH 5	EANH 6	EANH 7
DATE SAMPLE COLLECTED:	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/10/95	7/7/95
TIME SAMPLE COLLECTED:	1115	1015	1440	1530	1630	1530	1500
QA/QC DESCRIPTION (if applicable):	MS\MSD	BKG				Dup of 4	Trip Blank

CLP SAMPLE NUMBERS:		MEABR1	MEABR2	MEABR3	MEABR4	MEABR5	MEABR6	BLANK
ANALYTE DETECTED (ug/L)								
TAL METALS/CYANIDE	CRDL							
Aluminum	200 ug/L	646	520	260	106 U	2090	106 U	
Antimony	60 ug/L	53.4 U	53.4 U	53.4 U	53.4 U	53.4 U	76.6	
Arsenic	10 ug/L	7.9 U	6.3 U	6.3 U	6.3 U	6.3 U	6.3 U	
Barium	200 ug/L	137 B	92.0 B	50.6 B	91.8 B	58.1 B	90.1 B	
Beryllium	5 ug/L	0.40 B	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	
Cadmium	5 ug/L	2.4 B	2.0 U	2.0 U	2.8 B	2.2 B	2.2 B	
Calcium	5000 ug/L	99400	81500	178000	118000	243000	119000	
Chromium	10 ug/L	4.4 U	5.6 B	4.4 U	4.4 U	4.4 U	4.4 U	
Cobalt	50 ug/L	4.5 U	4.5 U	4.5 U	4.5 U	16.2 B	4.5 U	
Copper	25 ug/L	20.0 B	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	
Iron	100 ug/L	1610	1050	667	11200	10800	9880	
Lead	3 ug/L	4.4	2.2 U	3.1	26.4	3.5	22	
Magnesium	5000 ug/L	22300	22000	31400	32900	52400	32400	
Manganese	15 ug/L	388	74.7	3970	754	4270	718	
Mercury	0.2 ug/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Nickel	40 ug/L	15.3 B	9.6 B	13.3 B	8.7 U	71.6	9.2 B	
Potassium	5000 ug/L	1260 U	3620 B	1370 B	1260 U	2550 B	1260 U	
Selenium	5 ug/L	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	4.2 B	
Silver	10 ug/L	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	6.7 U	
Sodium	5000 ug/L	68000	58300	40700	41400	77100	40600	
Thallium	10 ug/L	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	
Vanadium	50 ug/L	3.0 U	3.0 U	3.0 U	3.0 U	5.6 B	3.0 U	
Zinc	20 ug/L	34.3	30	19.3 B	669	103	664	
Cyanide	10 ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	

TAL ANALYTE QUALIFIERS	DEFINITION
B	Value is real, but is above instrument detection limit and below contract-required detection limit.
U	Analyte was analyzed for but not detected.

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS\MSD		BKG	D of 3

COMPOUND DETECTED (ug/kg)					
<i>VOLATILE ORGANIC COMPOUNDS</i>	<i>CRQL</i>				
chloromethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
bromomethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
vinyl chloride	10 ug/kg	1900 U	2000 U	12 U	1800 U
chloroethane	10 ug/kg	1900 U	2000 U	12 U	240 J
methylene chloride	10 ug/kg	1900 U	2000 U	12 U	860 J
acetone	10 ug/kg	1900 U	2000 U	30 B	1800 U
carbon disulfide	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,1-dichloroethene	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,1-dichloroethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,2-dichloroethene (total)	10 ug/kg	1900 U	32000	7 J	9300
chloroform	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,2-dichloroethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
2-butanone	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,1,1-trichloroethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
carbon tetrachloride	10 ug/kg	1900 U	2000 U	12 U	1800 U
bromodichloromethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,2-dichloropropane	10 ug/kg	1900 U	2000 U	12 U	1800 U
cis-1,3-dichloropropene	10 ug/kg	1900 U	2000 U	12 U	1800 U
trichloroethene	10 ug/kg	4600	17000	4 J	3300
dibromochloromethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
1,1,2-trichloroethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
benzene	10 ug/kg	1900 U	2000 U	12 U	1800 U
trans-1,3-dichloropropene	10 ug/kg	1900 U	2000 U	12 U	1800 U
bromoform	10 ug/kg	1900 U	2000 U	12 U	1800 U
4-methyl-2-pentanone	10 ug/kg	1900 U	2000 U	12 U	1800 U
2-hexanone	10 ug/kg	1900 U	2000 U	12 U	1800 U
tetrachloroethene	10 ug/kg	1900 U	710 J	12 U	1800 U
1,1,2,2-tetrachloroethane	10 ug/kg	1900 U	2000 U	12 U	1800 U
toluene	10 ug/kg	1900 U	260 J	3 J	1800 U

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS\MSD		BKG	D of 3

COMPOUND DETECTED (ug/kg)					
VOLATILE ORGANIC COMPOUNDS	CRQL				
chlorobenzene	10 ug/kg	1900 U	2000 U	12 U	1800 U
ethyl benzene	10 ug/kg	1900 U	2000 U	12 U	1800 U
styrene	10 ug/kg	1900 U	2000 U	12 U	1800 U
xylenes (total)	10 ug/kg	1500 J	2100	12 U	580 J

SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL				
phenol	330 ug/kg	690 U	440 U	410 U	440 U
bis(2-chloroethyl)ether	330 ug/kg	690 U	440 U	410 U	440 U
2-chlorophenol	330 ug/kg	690 U	440 U	410 U	440 U
1,3-dichlorobenzene	330 ug/kg	690 U	440 U	410 U	440 U
1,4-dichlorobenzene	330 ug/kg	690 U	440 U	410 U	440 U
1,2-dichlorobenzene	330 ug/kg	690 U	440 U	410 U	440 U
2-methylphenol	330 ug/kg	690 U	440 U	410 U	440 U
2,2-oxybis(1-chloropropane)	330 ug/kg	690 U	440 U	410 U	440 U
4-methylphenol	330 ug/kg	690 U	440 U	410 U	440 U
n-nitroso-di-n-dipropylamine	330 ug/kg	690 U	440 U	410 U	440 U
hexachloroethane	330 ug/kg	690 U	440 U	410 U	440 U
nitrobenzene	330 ug/kg	690 U	440 U	410 U	440 U
isophorone	330 ug/kg	690 U	440 U	410 U	440 U
2-nitrophenol	330 ug/kg	690 U	440 U	410 U	440 U
2,4-dimethylphenol	330 ug/kg	690 U	440 U	410 U	440 U
bis(2-chloroethoxy)methane	330 ug/kg	690 U	440 U	410 U	440 U
2,4-dichlorophenol	330 ug/kg	690 U	440 U	410 U	440 U
1,2,4-trichlorobenzene	330 ug/kg	690 U	440 U	410 U	440 U
naphthalene	330 ug/kg	530 J	580	410 U	280 J
4-chloroaniline	330 ug/kg	690 U	440 U	410 U	440 U
hexachlorobutadiene	330 ug/kg	690 U	440 U	410 U	440 U
4-chloro-3-methylphenol	330 ug/kg	690 U	440 U	410 U	440 U
2-methylnaphthalene	330 ug/kg	1700	1000	410 U	490

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS\MSD		BKG	D of 3

COMPOUND DETECTED (ug/kg)					
SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL				
hexachlorocyclopentadiene	330 ug/kg	690 U	440 U	410 U	440 U
2,4,6-trichlorophenol	330 ug/kg	690 U	440 U	410 U	440 U
2,4,5-trichlorophenol	800 ug/kg	1700 U	1100 U	1000 U	1100 U
2-chloronaphthalene	330 ug/kg	690 U	440 U	410 U	440 U
2-nitroaniline	800 ug/kg	1700 U	1100 U	1000 U	1100 U
dimethylphthalate	330 ug/kg	690 U	440 U	410 U	440 U
acenaphthylene	330 ug/kg	690 U	440 U	410 U	440 U
2,6-dinitrotoluene	330 ug/kg	690 U	440 U	410 U	440 U
3-nitroaniline	330 ug/kg	1700 U	1100 U	1000 U	1100 U
acenaphthene	330 ug/kg	690 U	440 U	410 U	440 U
2,4-dinitrophenol	800 ug/kg	1700 U	1100 U	1000 U	1100 U
4-nitrophenol	800 ug/kg	1700 U	1100 U	1000 U	1100 U
dibenzofuran	330 ug/kg	290 J	70 J	410 U	30 J
2,4-dinitrotoluene	330 ug/kg	690 U	440 U	410 U	440 U
diethylphthalate	330 ug/kg	690 U	440 U	410 U	440 U
4-chlorophenyl-phenyl ether	330 ug/kg	690 U	440 U	410 U	440 U
fluorene	330 ug/kg	690 U	440 U	410 U	440 U
4-nitroaniline	800 ug/kg	1700 U	1100 U	1000 U	1100 U
4,6-dinitro-2-methylphenol	800 ug/kg	1700 U	1100 U	1000 U	1100 U
n-nitrosodiphenylamine	330 ug/kg	690 U	440 U	410 U	440 U
4-bromophenyl-phenyl ether	330 ug/kg	690 U	440 U	410 U	440 U
hexachlorobenzene	330 ug/kg	690 U	440 U	410 U	440 U
pentachlorophenol	800 ug/kg	1700 U	1100 U	1000 U	1100 U
phenanthrene	330 ug/kg	690 U	230 J	410 U	84 J
anthracene	330 ug/kg	2200	440 U	410 U	440 U
carbazole	330 ug/kg	690 U	440 U	410 U	440 U
di-n-butylphthalate	330 ug/kg	690 U	50 J	410 U	440 U
fluoranthene	330 ug/kg	2800	150 J	410 U	57 J
pyrene	330 ug/kg	650 J	440 U	410 U	440 U

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS/MSD		BKG	D of 3

COMPOUND DETECTED (ug/kg)					
SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL				
butylbenzylphthalate	330 ug/kg	690 U	440 U	410 U	440 U
3,3-dichlorobenzidine	330 ug/kg	690 U	440 U	410 U	440 U
benzo(a)anthracene	330 ug/kg	690 U	440 U	410 U	440 U
chrysene	330 ug/kg	1000	89 J	410 U	33 J
bis(2-ethylhexyl)phthalate	330 ug/kg	3700	1000	410 U	500
di-n-octylphthalate	330 ug/kg	690 U	440 U	410 U	440 U
benzo(b)fluoranthene	330 ug/kg	1400	440 U	410 U	440 U
benzo(k)fluoranthene	330 ug/kg	260 J	440 U	410 U	440 U
benzo(a)pyrene	330 ug/kg	500 J	440 U	410 U	440 U
indeno(1,2,3-cd)pyrene	330 ug/kg	690 U	440 U	410 U	440 U
dibenzo(a,h)anthracene	330 ug/kg	690 U	440 U	410 U	440 U
benzo(g,h,i)perylene	330 ug/kg	690 U	440 U	410 U	440 U

PESTICIDES/PCBs	CRQL				
alpha-BHC	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
beta-BHC	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
delta-BHC	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
gamma-BHC (Lindane)	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
heptachlor	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
aldrin	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
heptachlor epoxide	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
endosulfan I	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
dieldrin	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
4,4-DDE	3.3 ug/kg	69 U	4.4 U	5.4	4.4 U
Endrin	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
Endosulfan II	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
4,4-DDD	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
Endosulfan sulfate	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
4,4-DDT	3.3 ug/kg	69 U	4.4 U	2.4 JP	4.4 U

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS\MSD		BKG	D of 3

COMPOUND DETECTED (ug/kg)					
PESTICIDES/PCBs	CRQL				
methoxychlor	17.0 ug/kg	350 U	23 U	21 U	23 U
endrin ketone	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
endrin aldehyde	3.3 ug/kg	69 U	4.4 U	4.1 U	4.4 U
alpha-chlordane	1.7 ug/kg	35 U	2.3 U	0.39 JP	2.3 U
gamma-chlordane	1.7 ug/kg	35 U	2.3 U	2.1 U	2.3 U
toxaphene	170 ug/kg	3500 U	230 U	210 U	230 U
aroclor-1016	33 ug/kg	690 U	44 U	41 U	44 U
aroclor-1221	33 ug/kg	1400 U	90 U	83 U	89 U
aroclor-1232	67 ug/kg	690 U	44 U	41 U	44 U
aroclor-1242	33 ug/kg	690 U	44 U	41 U	44 U
aroclor-1248	33 ug/kg	690 U	44 U	41 U	44 U
aroclor-1254	33 ug/kg	180000 D	11000 D	41 U	8400
aroclor-1260	33 ug/kg	690 U	44 U	41 U	44 U

TCL COMPOUND QUALIFIERS	DEFINITION
J	Indicates an estimated value
U	Compound was analyzed for but not detected.
B	Compound is found in the associated blank as well as in the sample.
D	This flag indicates all compounds identified in an analysis at a secondary dilution factor.
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument.
P	Indicates there is a greater than 25% difference for detected concentrations between two GC columns. The lower of the two values is reported.

Sandy Supply Site Integrated Assessment Report Soil Sample Analyses - Comprehensive Results

SAMPLE NUMBERS	EANK 1 MEABT 1	EANK 3 MEAB 3	EANK 4 MEABT 4	EANK 5 MEABT 5
DATE SAMPLE COLLECTED	7/11/95	7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED	1005	900	1028	900
SAMPLE DEPTH	10' - 11'	10' - 11'	15"	10' - 11'
QA/QC DESCRIPTION (if applicable)	MS\MSD		BKG	D of 3

ANALYTE DETECTED (mg/kg)					
TAL METALS/CYANIDE	CRDL				
aluminum	40 mg/kg	10300	13700	16600	14200
antimony	12 mg/kg	14.2 U	11.4 U	12.2 U	12.5 U
arsenic	2 mg/kg	2.7 B	7.2	16.7	3
barium	40 mg/kg	451	215	150	188
beryllium	1 mg/kg	0.35 B	0.43 B	1.0 B	0.47 B
cadmium	1 mg/kg	0.80 B	0.66 B	0.64 B	0.68 B
calcium	1000 mg/kg	31600	10300	4120	7320
chromium	2 mg/kg	35.2	55.7	23.2	48
cobalt	10 mg/kg	14.8	17.1	10.6 B	15.9
copper	5 mg/kg	13.9	16.4	20.4	15.2
iron	20 mg/kg	16600	22500	31500	24500
lead	0.6 mg/kg	28.5	27.8	28.4	27.2
magnesium	1000 mg/kg	1800	1860	3190	1880
manganese	3 mg/kg	296	531	649	549
mercury	0.1 mg/kg	0.13 U	0.13 U	0.18	0.12 U
nickel	8 mg/kg	38.4	33.8	27.5	29
potassium	1000 mg/kg	2210	5450	1860	4960
selenium	1 mg/kg	0.97 U	0.71 U	0.83 U	0.92 U
silver	2 mg/kg	16.6	19.7	1.5 U	15.9
sodium	1000 mg/kg	394 B	782 B	266 B	694 B
thallium	2 mg/kg	1.3 U	0.95 U	1.1 U	1.2 U
vanadium	10 mg/kg	152	302	49.2	315
zinc	4 mg/kg	80	49.8	123	65.4
cyanide	2 mg/kg	2.1	1.4	0.61 U	0.85

TAL ANALYTE QUALIFIERS	DEFINITION
B	Value is real, but is above instrument detection limit and below contract-required detection limit.
U	Analyte was analyzed for but not detected.

Sandy Supply Integrated Assessment Report
Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

COMPOUND DETECTED (ug/kg)				
<i>VOLATILE ORGANIC COMPOUNDS</i>	<i>CRQL</i>			
chloromethane	10 ug/kg	10 U	17 U	18 U
bromomethane	10 ug/kg	10 U	17 U	18 U
vinyl chloride	10 ug/kg	10 U	17 U	18 U
chloroethane	10 ug/kg	10 U	17 U	18 U
methylene chloride	10 ug/kg	10 U	17 U	18 U
acetone	10 ug/kg	9 U	41 U	44 U
carbon disulfide	10 ug/kg	10 U	17 U	18 U
1,1-dichloroethene	10 ug/kg	10 U	17 U	18 U
1,1-dichloroethane	10 ug/kg	10 U	17 U	18 U
1,2-dichloroethene (total)	10 ug/kg	10 U	17 U	18 U
chloroform	10 ug/kg	10 U	17 U	18 U
1,2-dichloroethane	10 ug/kg	10 U	17 U	18 U
2-butanone	10 ug/kg	10 U	17 U	18 U
1,1,1-trichloroethane	10 ug/kg	10 U	17 U	18 U
carbon tetrachloride	10 ug/kg	10 U	17 U	18 U
bromodichloromethane	10 ug/kg	10 U	17 U	18 U
1,2-dichloropropane	10 ug/kg	10 U	17 U	18 U
cis-1,3-dichloropropene	10 ug/kg	10 U	17 U	18 U
trichloroethene	10 ug/kg	10 U	17 U	18 U
dibromochloromethane	10 ug/kg	10 U	17 U	18 U
1,1,2-trichloroethane	10 ug/kg	10 U	17 U	18 U
benzene	10 ug/kg	10 U	17 U	18 U
trans-1,3-dichloropropene	10 ug/kg	10 U	17 U	18 U
bromoform	10 ug/kg	10 U	17 U	18 U
4-methyl-2-pentanone	10 ug/kg	10 U	17 U	18 U
2-hexanone	10 ug/kg	10 U	17 U	18 U
tetrachloroethene	10 ug/kg	10 U	17 U	18 U
1,1,2,2-tetrachloroethane	10 ug/kg	10 U	17 U	18 U
toluene	10 ug/kg	10 U	17 U	18 U

Sandy Supply Integrated Assessment Report
Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

COMPOUND DETECTED (ug/kg)				
<i>VOLATILE ORGANIC COMPOUNDS</i>	<i>CRQL</i>			
chlorobenzene	10 ug/kg	10 U	17 U	18 U
ethyl benzene	10 ug/kg	10 U	17 U	18 U
styrene	10 ug/kg	10 U	17 U	18 U
xylene (total)	10 ug/kg	10 U	17 U	18 U
<i>SEMI-VOLATILE ORGANIC COMPOUNDS</i>	<i>CRQL</i>			
phenol	330 ug/kg	420 U	530 U	520 U
bis(2-chloroethyl)ether	330 ug/kg	420 U	530 U	520 U
2-chlorophenol	330 ug/kg	420 U	530 U	520 U
1,3-dichlorobenzene	330 ug/kg	420 U	530 U	520 U
1,4-dichlorobenzene	330 ug/kg	38 J	530 U	520 U
1,2-dichlorobenzene	330 ug/kg	420 U	530 U	520 U
2-methylphenol	330 ug/kg	420 U	530 U	520 U
2,2-oxybis(1-chloropropane)	330 ug/kg	420 U	530 U	520 U
4-methylphenol	330 ug/kg	420 U	54 J	520 U
n-nitroso-di-n-dipropylamine	330 ug/kg	420 U	530 U	520 U
hexachloroethane	330 ug/kg	420 U	530 U	520 U
nitrobenzene	330 ug/kg	420 U	530 U	520 U
isophorone	330 ug/kg	420 U	530 U	520 U
2-nitrophenol	330 ug/kg	420 U	530 U	520 U
2,4-dimethylphenol	330 ug/kg	420 U	530 U	520 U
bis(2-chloroethoxy)methane	330 ug/kg	420 U	530 U	520 U
2,4-dichlorophenol	330 ug/kg	420 U	530 U	520 U
1,2,4-trichlorobenzene	330 ug/kg	420 U	530 U	520 U
naphthalene	330 ug/kg	13 J	22 J	18 J
4-chloroaniline	330 ug/kg	420 U	530 U	520 U
hexachlorobutadiene	330 ug/kg	420 U	530 U	520 U
4-chloro-3-methylphenol	330 ug/kg	420 U	530 U	520 U
2-methylnaphthalene	330 ug/kg	12 J	24 J	21 J

Sandy Supply Integrated Assessment Report
Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

COMPOUND DETECTED (ug/kg)				
SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL			
hexachlorocyclopentadiene	330 ug/kg	420 U	530 U	520 U
2,4,6-trichlorophenol	330 ug/kg	420 U	530 U	520 U
2,4,5-trichlorophenol	800 ug/kg	1100 U	1300 U	1300 U
2-chloronaphthalene	330 ug/kg	420 U	530 U	520 U
2-nitroaniline	800 ug/kg	1100 U	1300 U	1300 U
dimethylphthalate	330 ug/kg	420 U	530 U	520 U
acenaphthylene	330 ug/kg	35 J	62 J	42 J
2,6-dinitrotoluene	330 ug/kg	420 U	530 U	520 U
3-nitroaniline	330 ug/kg	1100 U	1300 U	1300 U
acenaphthene	330 ug/kg	49 J	35 J	46 J
2,4-dinitrophenol	800 ug/kg	1100 U	1300 U	1300 U
4-nitrophenol	800 ug/kg	1100 U	1300 U	1300 U
dibenzofuran	330 ug/kg	34 J	30 J	27 J
2,4-dinitrotoluene	330 ug/kg	420 U	530 U	520 U
diethylphthalate	330 ug/kg	420 U	530 U	520 U
4-chlorophenyl-phenyl ether	330 ug/kg	420 U	530 U	520 U
fluorene	330 ug/kg	66 J	47 J	50 J
4-nitroaniline	800 ug/kg	1100 U	1300 U	1300 U
4,6-dinitro-2-methylphenol	800 ug/kg	1100 U	1300 U	1300 U
n-nitrosodiphenylamine	330 ug/kg	420 U	530 U	520 U
4-bromophenyl-phenyl ether	330 ug/kg	420 U	530 U	520 U
hexachlorobenzene	330 ug/kg	420 U	530 U	520 U
pentachlorophenol	800 ug/kg	1100 U	1300 U	1300 U
phenanthrene	330 ug/kg	1100	840	820
anthracene	330 ug/kg	180 J	140 J	520 U
carbazole	330 ug/kg	290 J	300 J	300 J
di-n-butylphthalate	330 ug/kg	420 U	530 U	520 U
fluoranthene	330 ug/kg	2000	2200	2200
pyrene	330 ug/kg	1700	2000	1500

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Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

COMPOUND DETECTED (ug/kg)				
SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL			
butylbenzylphthalate	330 ug/kg	420 U	530 U	520 U
3,3-dichlorobenzidine	330 ug/kg	420 U	530 U	520 U
benzo(a)anthracene	330 ug/kg	750	710	700
chrysene	330 ug/kg	890	1000	960
bis(2-ethylhexyl)phthalate	330 ug/kg	420 U	640 B	1600 B
di-n-octylphthalate	330 ug/kg	420 U	530 U	520 U
benzo(b)fluoranthene	330 ug/kg	950	1400	1300
benzo(k)fluoranthene	330 ug/kg	870	1000	950
benzo(a)pyrene	330 ug/kg	720	800	770
indeno(1,2,3-cd)pyrene	330 ug/kg	230 J	200 J	200 J
dibenzo(a,h)anthracene	330 ug/kg	54 J	33 J	30 J
benzo(g,h,i)perylene	330 ug/kg	46 J	62 J	67 J
PESTICIDES/PCBs	CRQL			
alpha-BHC	1.7 ug/kg	1.7 U	2.7 U	2.6 U
beta-BHC	1.7 ug/kg	1.7 U	2.7 U	2.6 U
delta-BHC	1.7 ug/kg	1.7 U	2.7 U	2.6 U
gamma-BHC (Lindane)	1.7 ug/kg	1.7 U	2.7 U	2.6 U
heptachlor	1.7 ug/kg	1.7 U	2.7 U	2.6 U
aldrin	1.7 ug/kg	1.7 U	2.7 U	2.6 U
heptachlor epoxide	1.7 ug/kg	1.7 U	2.7 U	2.6 U
endosulfan I	1.7 ug/kg	1.7 U	6.2 P	5.0 JP
dieldrin	1.7 ug/kg	3.3 U	5.3 U	5.2 U
4,4-DDE	1.7 ug/kg	3.3 U	5.3 U	5.2 U
Endrin	1.7 ug/kg	3.3 U	5.3 U	5.2 U
Endosulfan II	1.7 ug/kg	3.3 U	5.3 U	5.2 U
4,4-DDD	1.7 ug/kg	3.3 U	21	15
Endosulfan sulfate	1.7 ug/kg	3.3 U	5.3 U	5.2 U
4,4-DDT	1.7 ug/kg	3.3 U	5.3 U	5.2 U

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Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

COMPOUND DETECTED (ug/kg)				
PESTICIDES/PCBs	CRQL			
methoxychlor	1.7 ug/kg	17 U	27 U	26 U
endrin ketone	3.3 ug/kg	3.3 U	5.3 U	5.2 U
endrin aldehyde	3.3 ug/kg	3.3 U	5.3 U	5.2 U
alpha-chlordane	1.7 ug/kg	1.7 U	9.3 P	7.4 P
gamma-chlordane	1.7 ug/kg	1.7 U	10.0 P	8.1 P
toxaphene	1.7 ug/kg	170 U	270 U	260 U
aroclor-1016	33 ug/kg	33 U	53 U	52 U
aroclor-1221	33 ug/kg	67 U	110 U	100 U
aroclor-1232	67 ug/kg	33 U	53 U	52 U
aroclor-1242	33 ug/kg	33 U	53 U	52 U
aroclor-1248	33 ug/kg	33 U	60 P	55
aroclor-1254	33 ug/kg	33 U	490	450
aroclor-1260	33 ug/kg	33 U	53 U	52 U

TCL COMPOUND QUALIFIERS	DEFINITION
J	Indicates an estimated value
U	Compound was analyzed for but not detected.
B	Compound is found in the associated blank as well as in the sample.
D	This flag indicates all compounds identified in an analysis at a secondary dilution factor.
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instru
P	Indicates there is a greater than 25% difference for detected concentrations between two GC columns.

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Table X: Sediment Sample Analyses - Compensive Findings

CLP SAMPLE NUMBERS		EANK 6 MEABT 6	EANK 7 MEAPB 7	EANK 8 MEAPBT 8
DATE SAMPLE COLLECTED		7/11/95	7/11/95	7/11/95
TIME SAMPLE COLLECTED		853	934	934
SAMPLE DEPTH				
QA/QC DESCRIPTION (if applicable)		MS\MSD		D of 7

ANALYTE DETECTED (mg/kg)				
TAL METALS/CYANIDE	CRDL			
aluminum	40 mg/kg	5720	6060	5870
antimony	12 mg/kg	3.5 U	3.9 U	3.9 U
arsenic	2 mg/kg	22.7	13.3	13.4
barium	40 mg/kg	55.9 E	62.2	77.6
beryllium	1 mg/kg	1.1B	1.2 B	1.2B
cadmium	1 mg/kg	0.25 U	0.29 U	0.37 B
calcium	1000mg/kg	12100	10900	12200
chromium	2 mg/kg	12.6	16.9	19.2
cobalt	10 mg/kg	8.3 B	8.8 B	9.3 B
copper	5 mg/kg	23.5	46.6	42.2
iron	20 mg/kg	28000	20500	20900
lead	0.6 mg/kg	42.9	60.3	62.1
magnesium	1000 mg/kg	3530	3130	3230
manganese	3 mg/kg	545	430	455
mercury	0.1 mg/kg	0.07 U	1.14 B	0.13 B
nickel	8 mg/kg	14.5	22.1	22.8
potassium	1000 mg/kg	651 B	682 B	567 B
selenium	1 mg/kg	0.63 U	0.72 U	0.71 U
silver	2 mg/kg	0.68 U	0.78 U	0.77 U
sodium	1000 mg/kg	123 B	119	112 B
thallium	2 mg/kg	1.3 U	1.5 U	1.5 U
vanadium	10 mg/kg	25	24.6	25.8
zinc	4 mg/kg	109	120	121
cyanide	2 mg/kg	0.63 U	1.3	0.74 U

TAL ANALYTE QUALIFIERS	DEFINITION
B	Value is real, but is above instrument detection limit and below contract-required detection limit.
U	Analyte was analyzed for but not detected.